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PATENT & TRADEMARK OFFICE



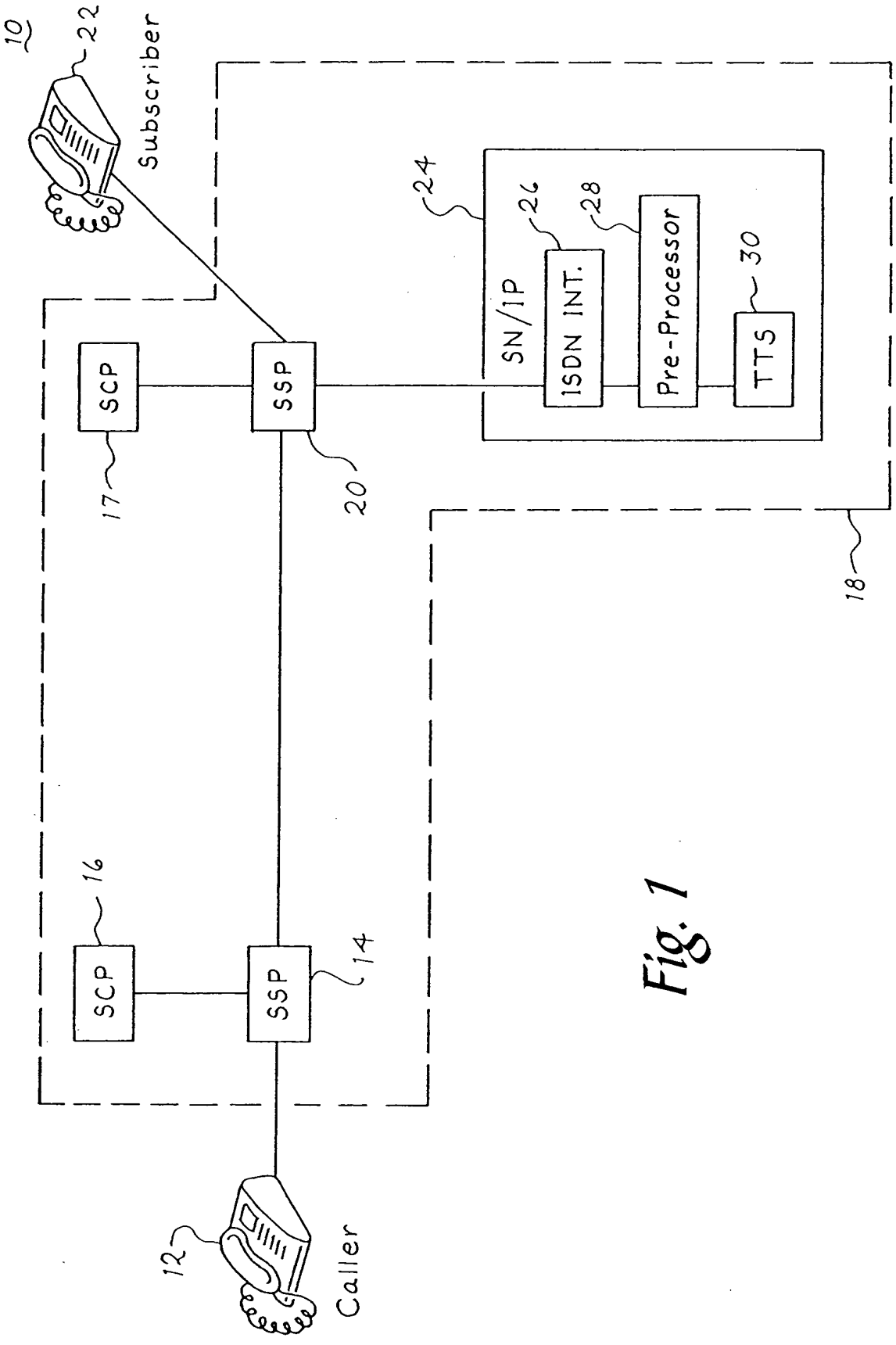



Fig. 1

Fig. 2

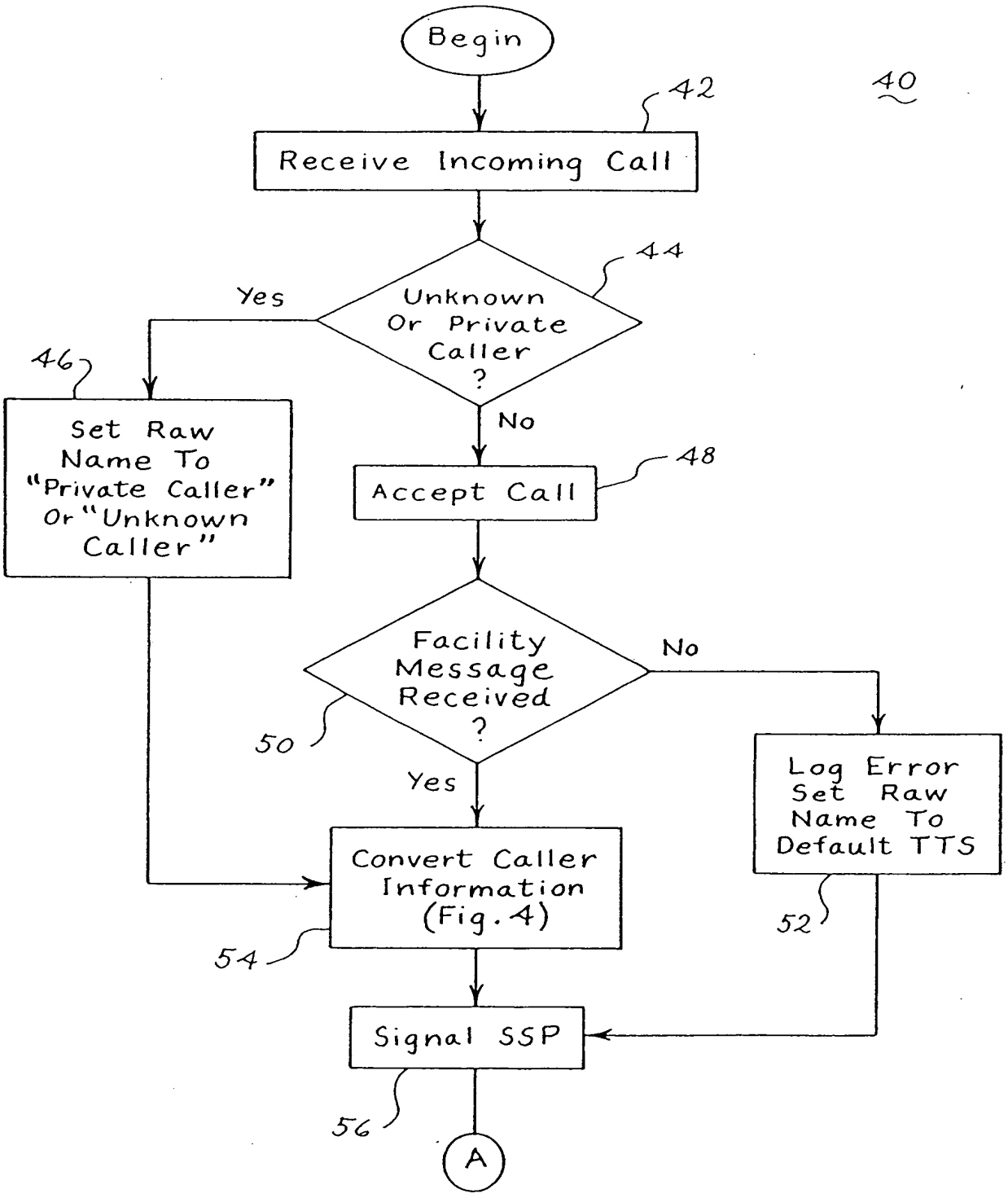

Begin
40
42
Receive Incoming Call
44
Unknown Or Private Caller ?
Yes
No
46
Set Raw Name To "Private Caller" Or "Unknown Caller"
48
Accept Call
Facility Message Received ?
50
No
Yes
Log Error Set Raw Name To Default TTS
52
Convert Caller Information (Fig. 4)
54
Signal SSP
56
A

*Fig. 3*

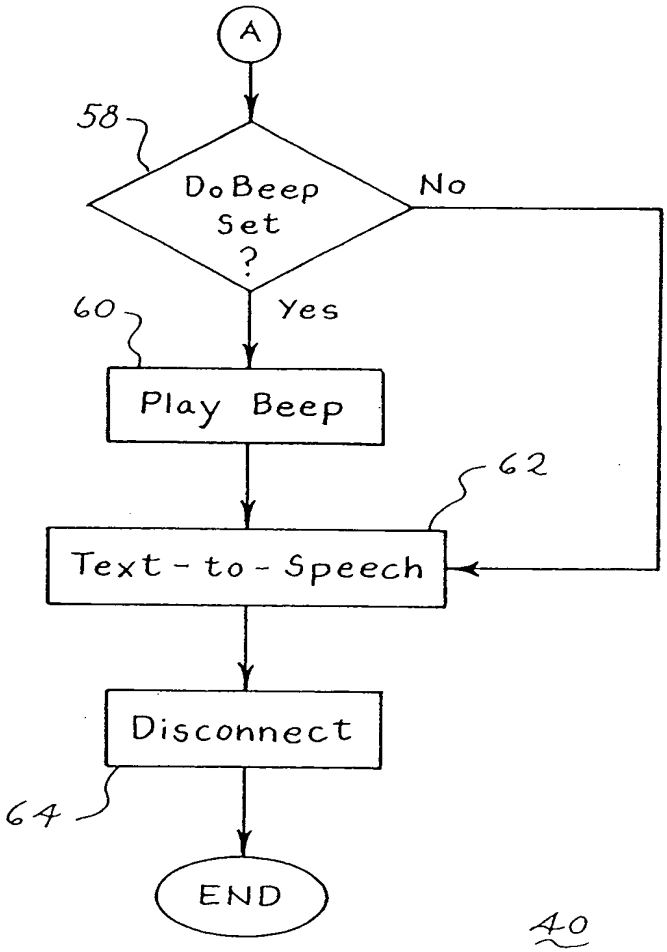
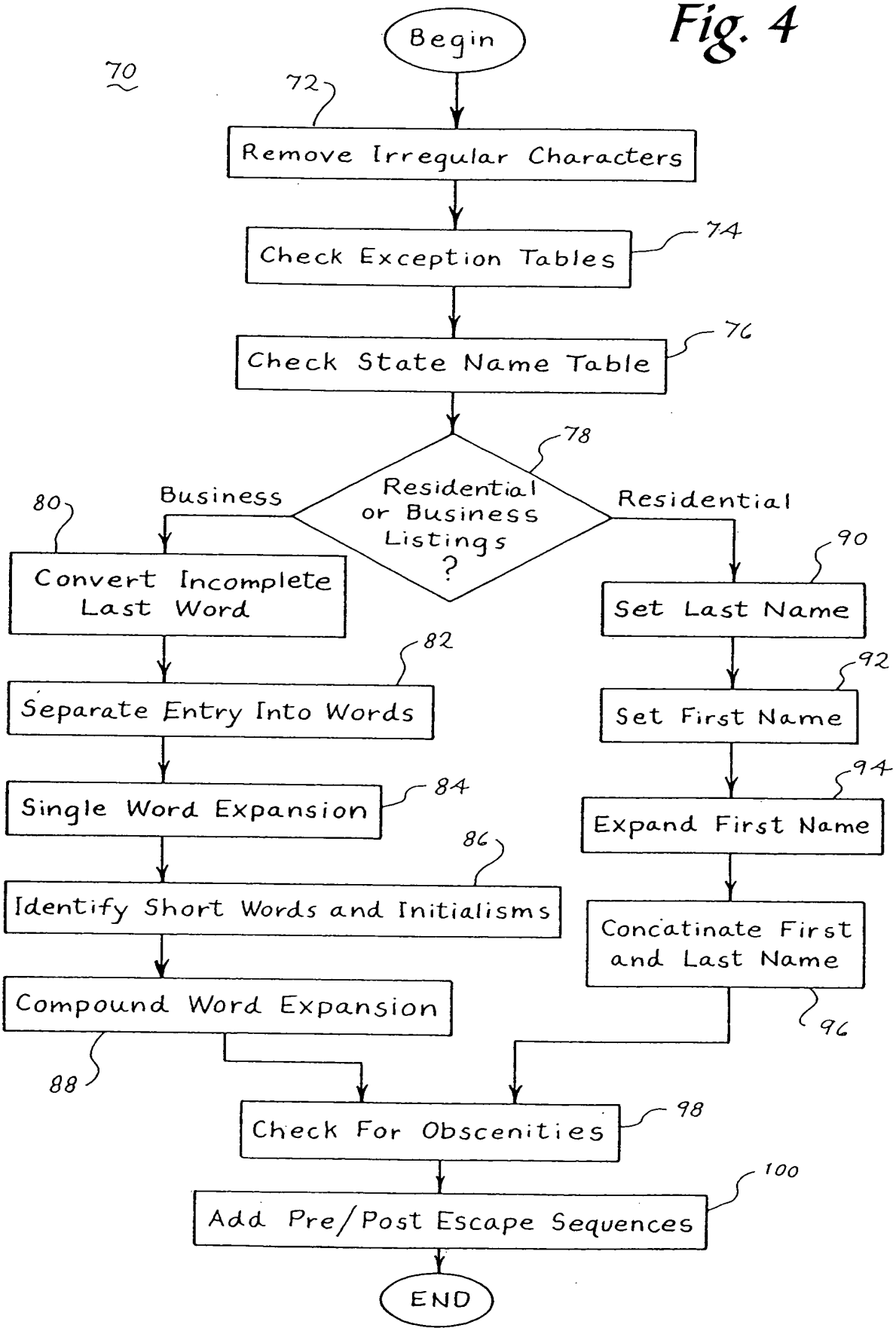

A
58
Do Beep Set ?
No
Yes
60
Play Beep
62
Text-to-Speech
Disconnect
64
END
40

Fig. 4


70
Begin
72
Remove Irregular Characters
74
Check Exception Tables
76
Check State Name Table
78
Residential or Business Listings ?
Business
Residential
80
Convert Incomplete Last Word
82
Separate Entry Into Words
84
Single Word Expansion
86
Identify Short Words and Initialisms
88
Compound Word Expansion
90
Set Last Name
92
Set First Name
94
Expand First Name
Concatinate First and Last Name
96
98
Check For Obscenities
100
Add Pre/Post Escape Sequences
END

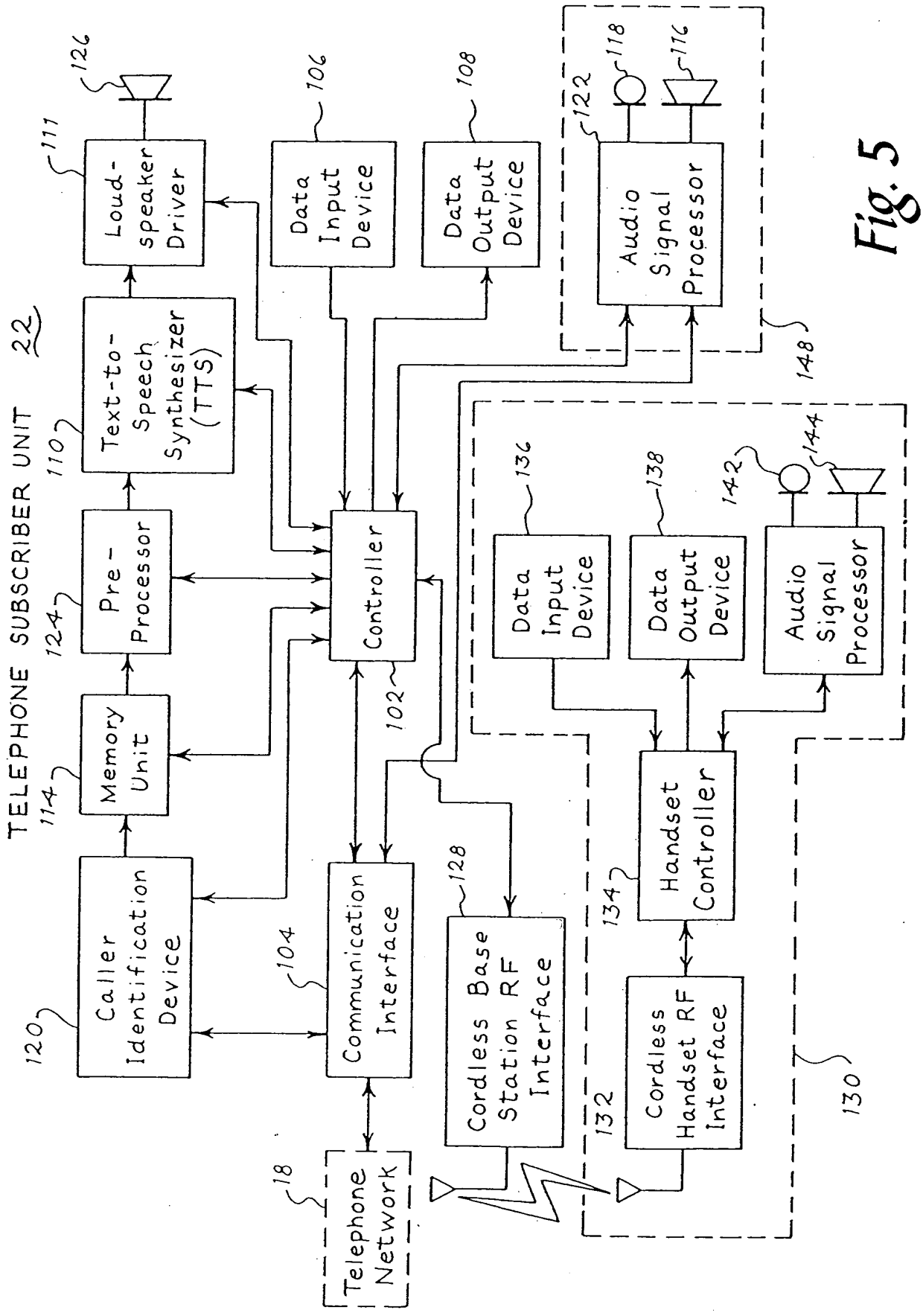

TELEPHONE SUBSCRIBER UNIT 22
Loud-speaker Driver
111
126
Data Input Device
106
Data Output Device
108
Audio Signal Processor
122
118
116
148
Text-to-Speech Synthesizer (TTS)
110
Pre-Processor
124
Memory Unit
114
Caller Identification Device
120
Controller
102
Communication Interface
104
Cordless Base Station RF Interface
128
Telephone Network
18
Data Input Device
136
Data Output Device
138
Audio Signal Processor
142
144
Handset Controller
134
Cordless Handset RF Interface
132
130

Fig. 5

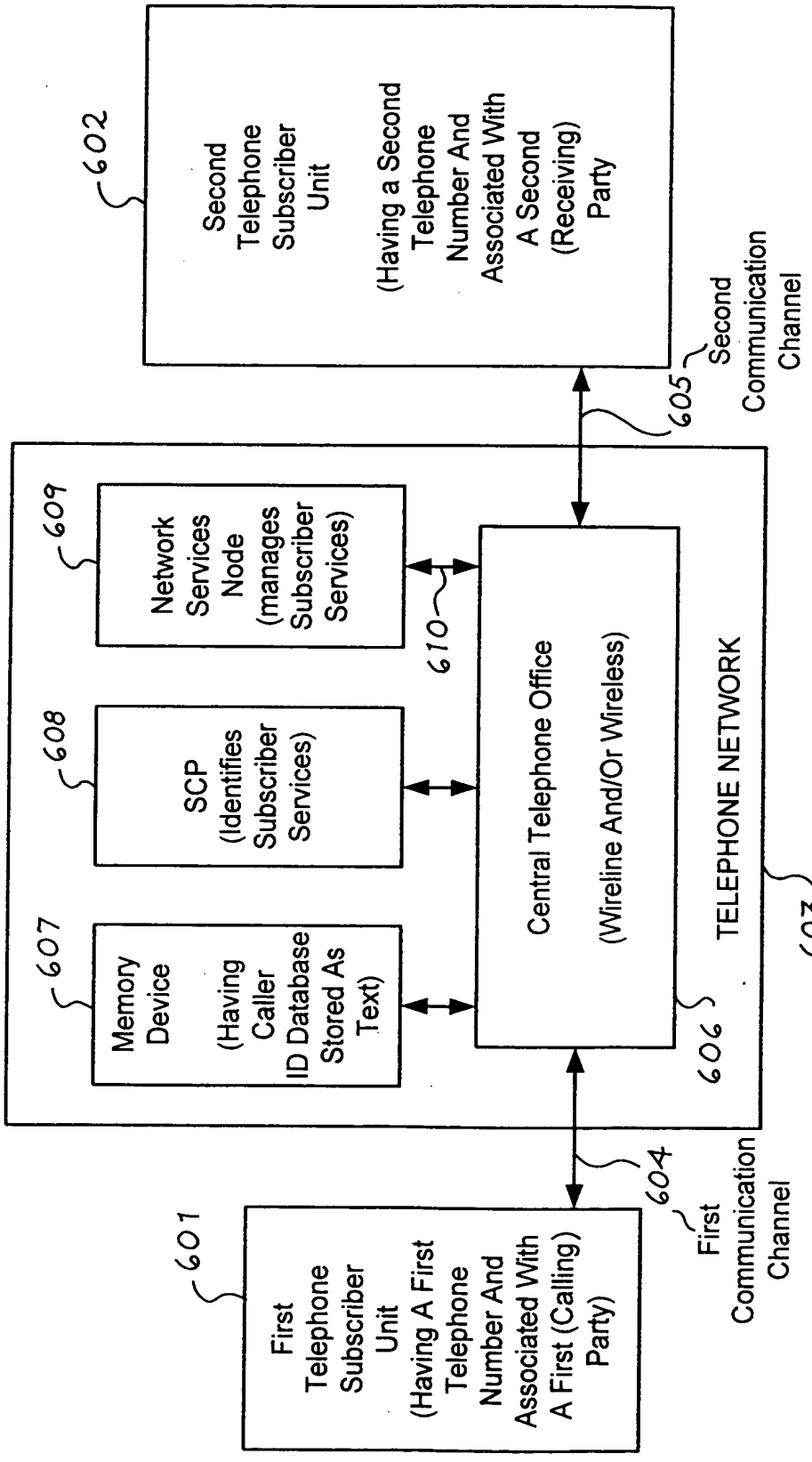



Fig. 6 TELECOMMUNICATIONS SYSTEM 600

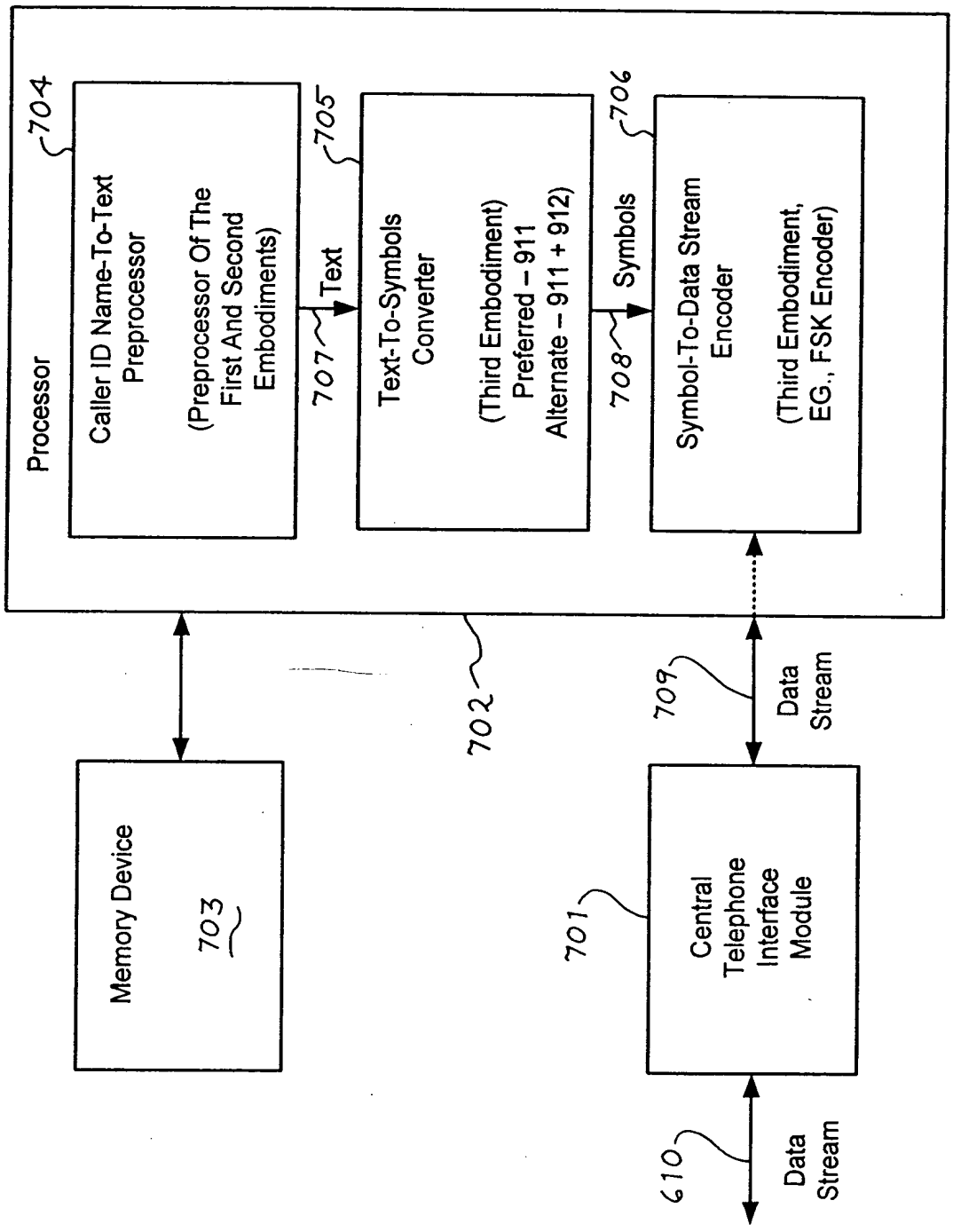



Fig. 7 NETWORK SERVICES NODE 609

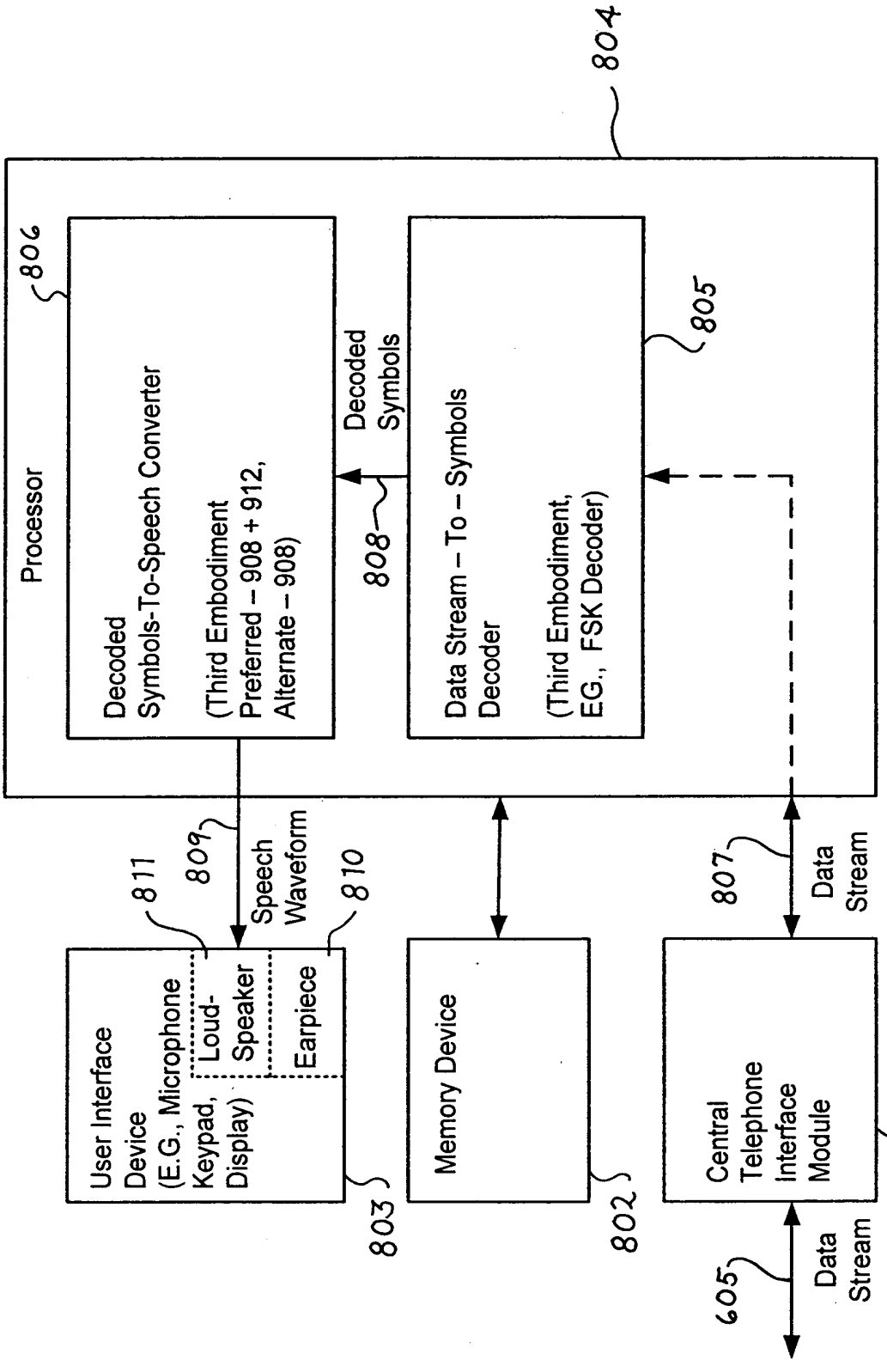

804
Processor
806
Decoded Symbols-To-Speech Converter
(Third Embodiment Preferred – 908 + 912, Alternate – 908)
808
Decoded Symbols
805
Data Stream – To – Symbols Decoder
(Third Embodiment, EG., FSK Decoder)
809
Speech Waveform
811
810
User Interface Device (E.G., Microphone Keypad, Display)
Loud-Speaker
Earpiece
803
Memory Device
802
807
Data Stream
Central Telephone Interface Module
801
605
Data Stream
602
SECOND TELEPHONE SUBSCRIBER UNIT

Fig. 8

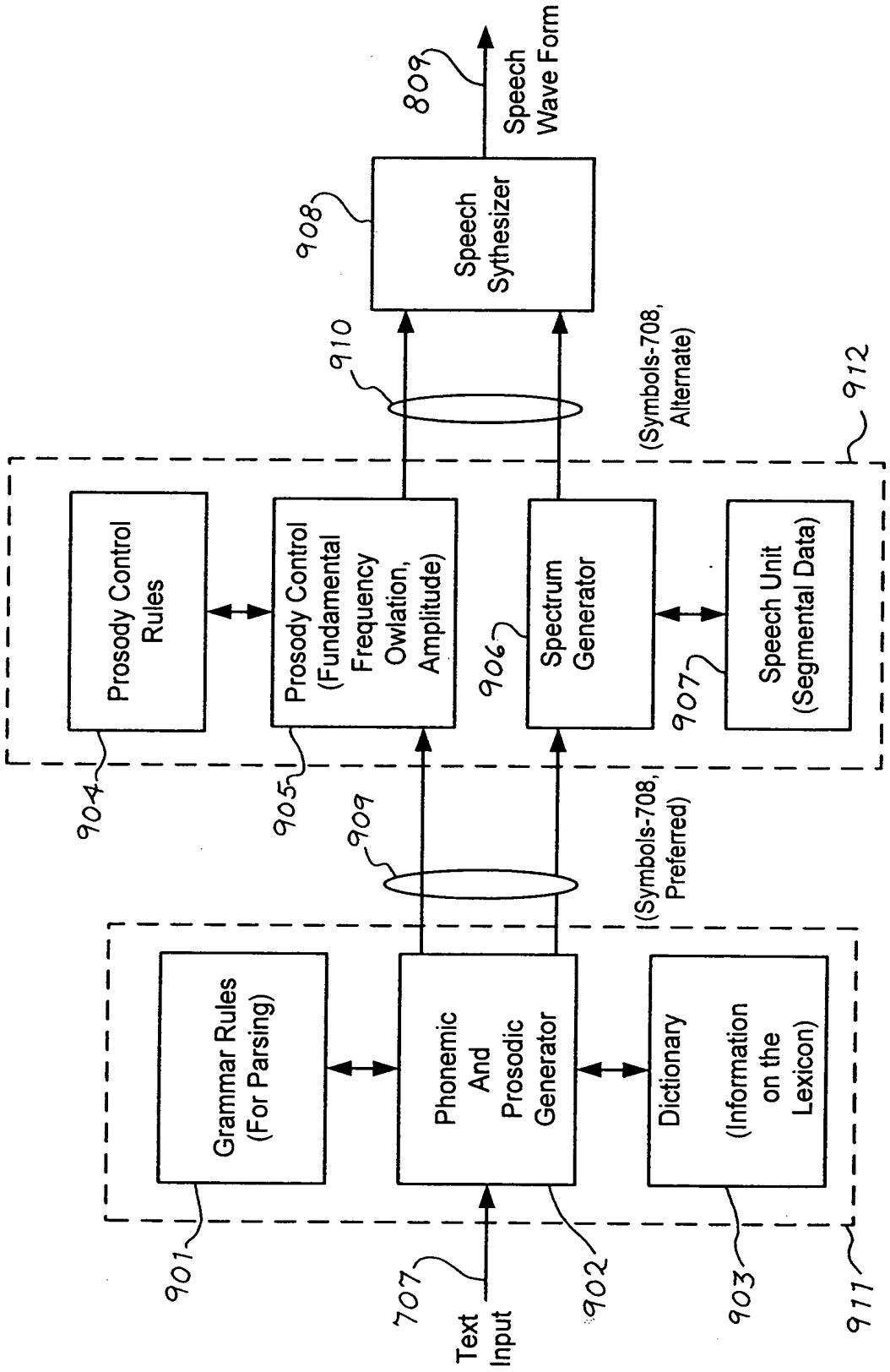



Fig. 9 TEXT-TO-SPEECH SYTHESIZER (705 and 806) 900

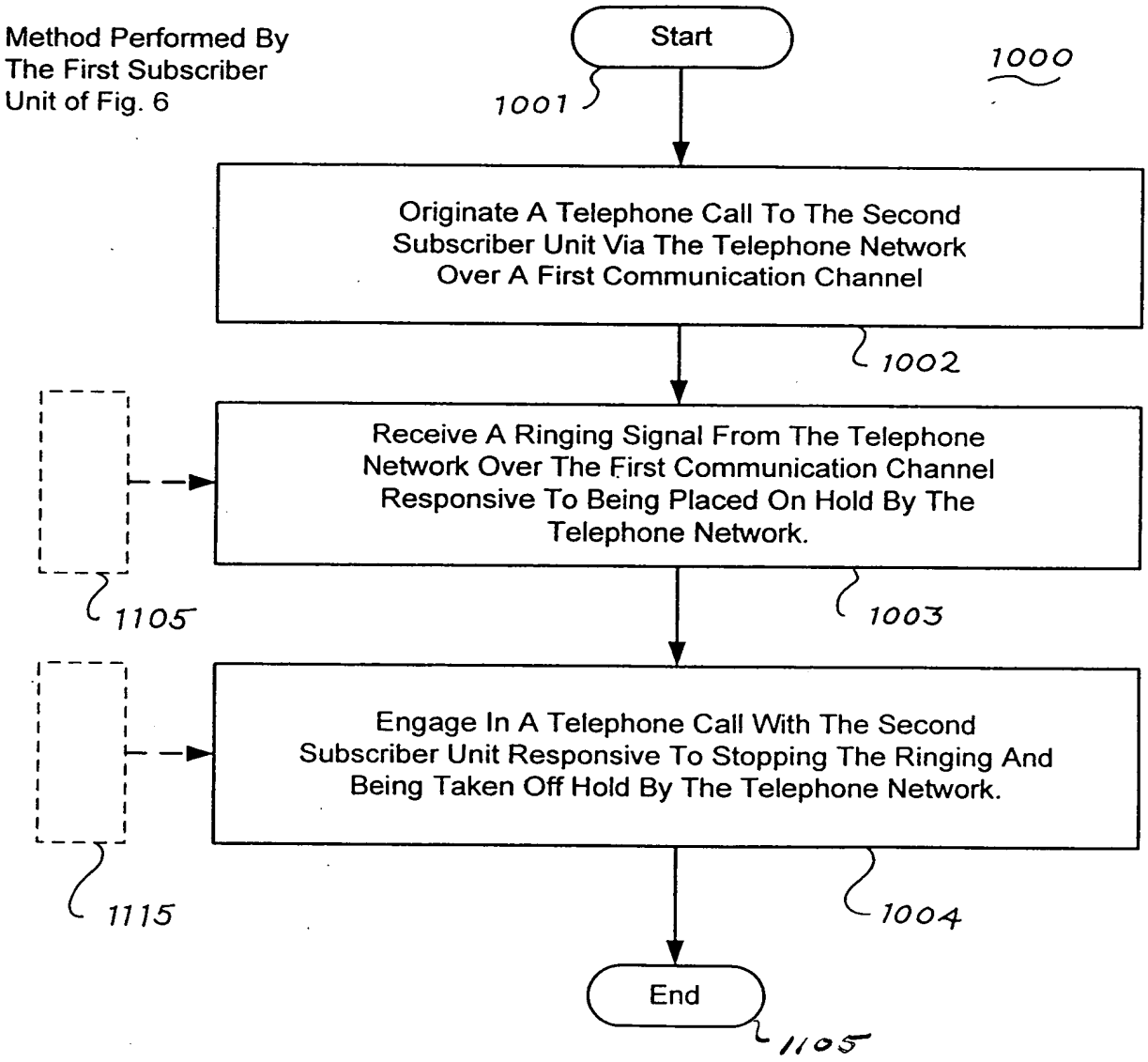

Method Performed By The First Subscriber Unit of Fig. 6
Start
1001
1000
Originate A Telephone Call To The Second Subscriber Unit Via The Telephone Network Over A First Communication Channel
1002
Receive A Ringing Signal From The Telephone Network Over The First Communication Channel Responsive To Being Placed On Hold By The Telephone Network.
1003
1105
Engage In A Telephone Call With The Second Subscriber Unit Responsive To Stopping The Ringing And Being Taken Off Hold By The Telephone Network.
1004
1115
End
1105

Fig. 10

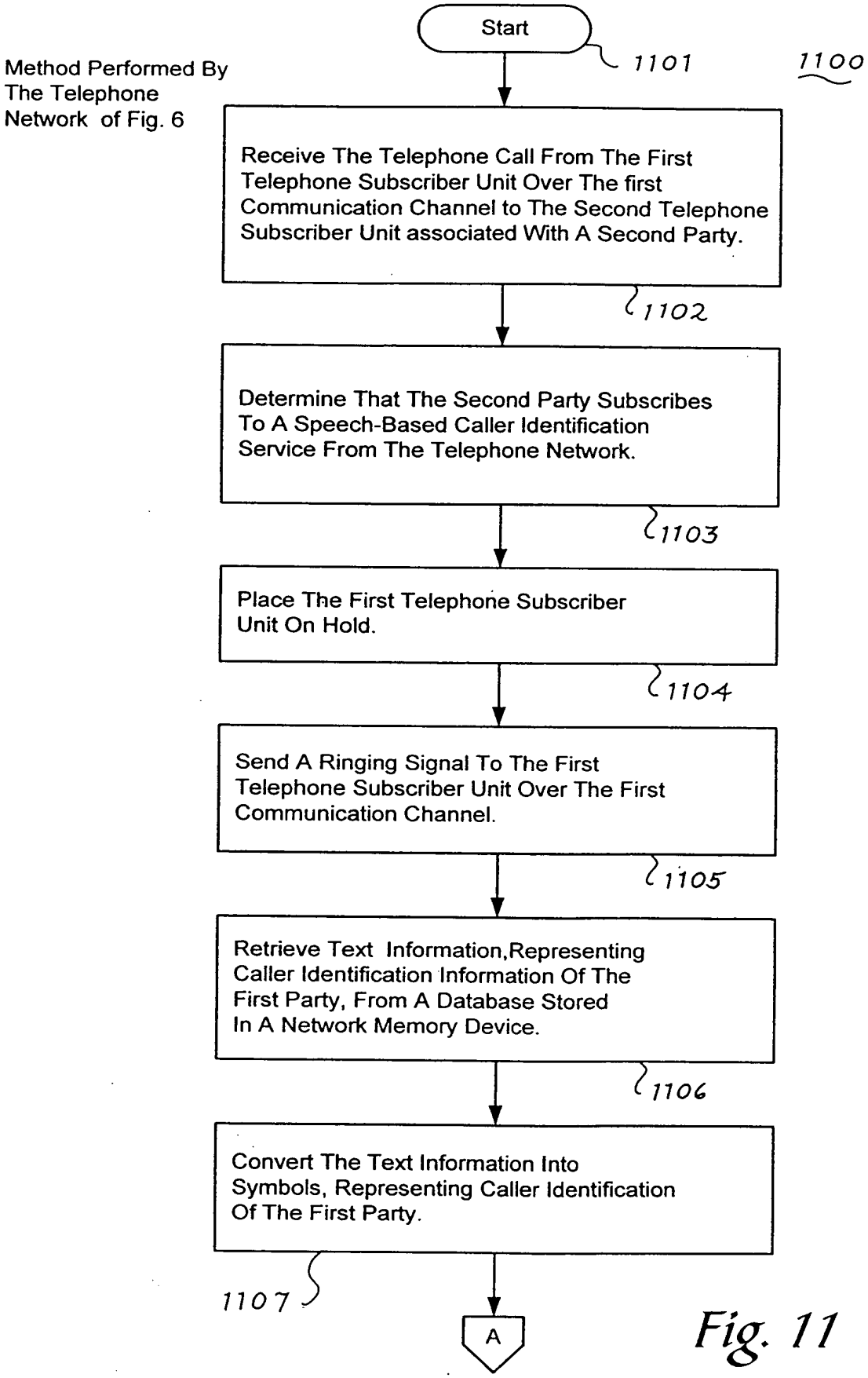

Method Performed By The Telephone Network of Fig. 6
Start
1101
1100
Receive The Telephone Call From The First Telephone Subscriber Unit Over The first Communication Channel to The Second Telephone Subscriber Unit associated With A Second Party.
1102
Determine That The Second Party Subscribes To A Speech-Based Caller Identification Service From The Telephone Network.
1103
Place The First Telephone Subscriber Unit On Hold.
1104
Send A Ringing Signal To The First Telephone Subscriber Unit Over The First Communication Channel.
1105
Retrieve Text Information,Representing Caller Identification Information Of The First Party, From A Database Stored In A Network Memory Device.
1106
Convert The Text Information Into Symbols, Representing Caller Identification Of The First Party.
1107
A

Fig. 11

Fig. 11 (cont'd)

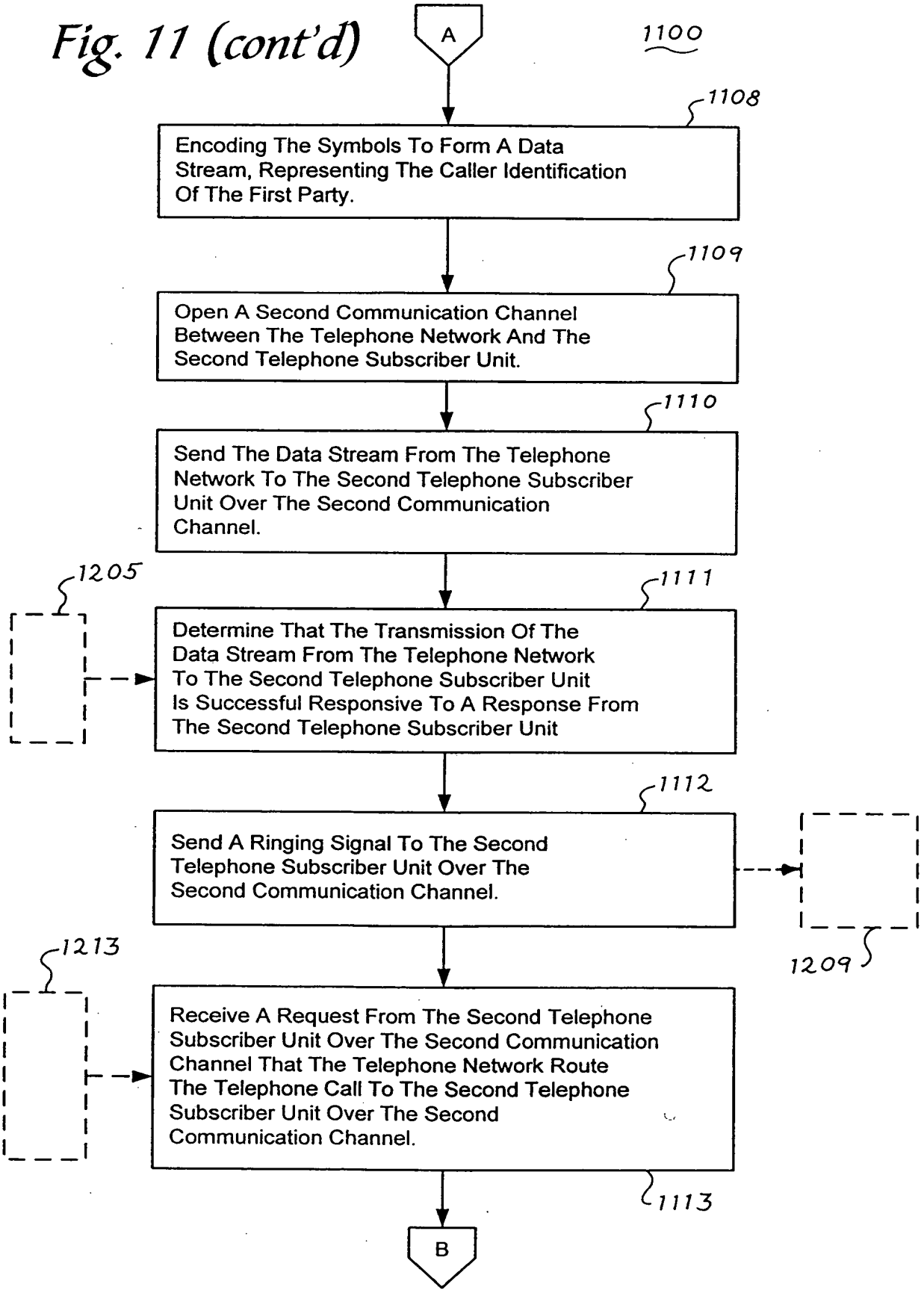
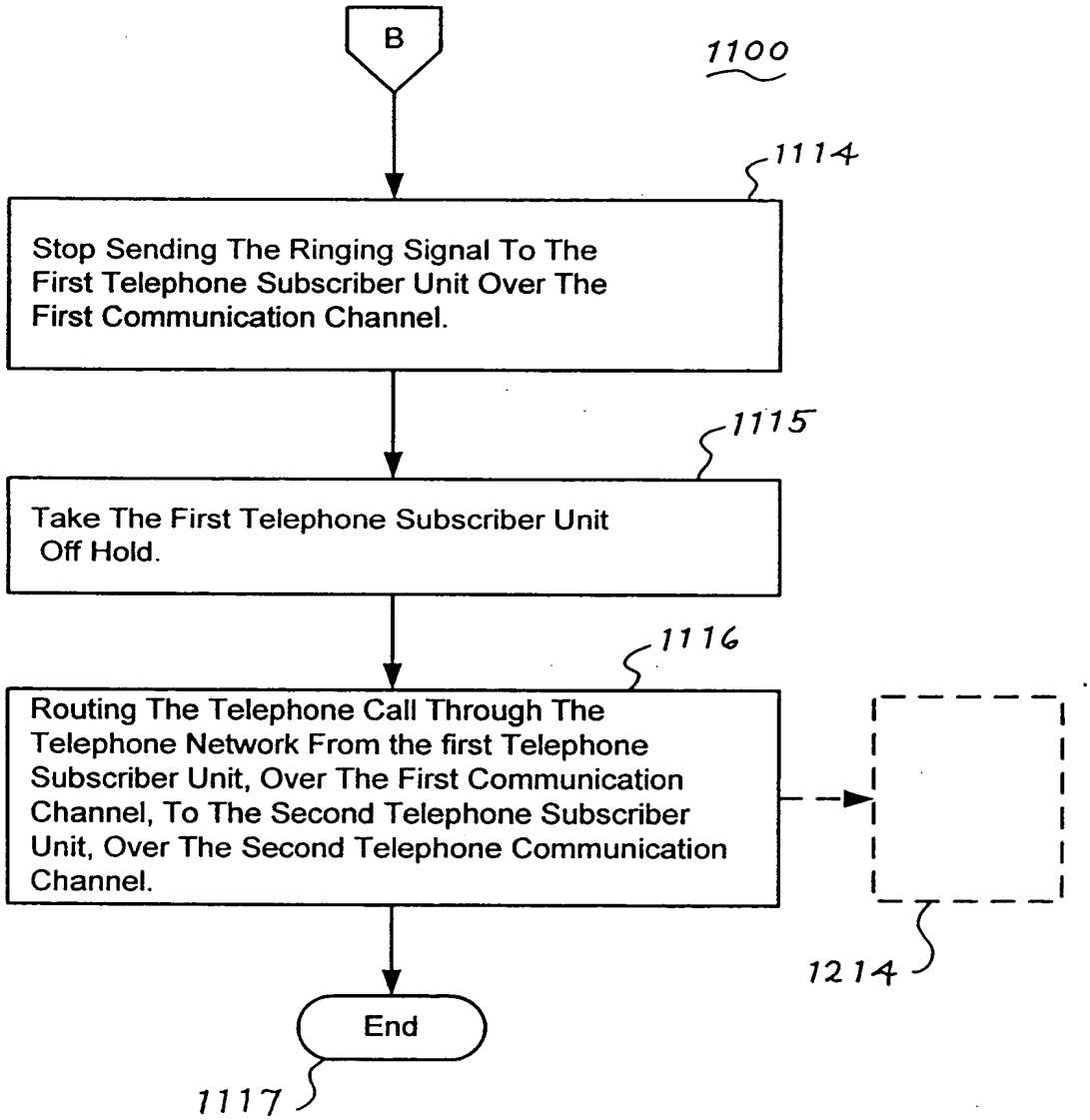

A
1100
1108
Encoding The Symbols To Form A Data Stream, Representing The Caller Identification Of The First Party.
1109
Open A Second Communication Channel Between The Telephone Network And The Second Telephone Subscriber Unit.
1110
Send The Data Stream From The Telephone Network To The Second Telephone Subscriber Unit Over The Second Communication Channel.
1205
1111
Determine That The Transmission Of The Data Stream From The Telephone Network To The Second Telephone Subscriber Unit Is Successful Responsive To A Response From The Second Telephone Subscriber Unit
1112
Send A Ringing Signal To The Second Telephone Subscriber Unit Over The Second Communication Channel.
1209
1213
Receive A Request From The Second Telephone Subscriber Unit Over The Second Communication Channel That The Telephone Network Route The Telephone Call To The Second Telephone Subscriber Unit Over The Second Communication Channel.
1113
B

*Fig. 11 (cont'd)*


B
1100
1114
Stop Sending The Ringing Signal To The First Telephone Subscriber Unit Over The First Communication Channel.
1115
Take The First Telephone Subscriber Unit Off Hold.
1116
Routing The Telephone Call Through The Telephone Network From the first Telephone Subscriber Unit, Over The First Communication Channel, To The Second Telephone Subscriber Unit, Over The Second Telephone Communication Channel.
1214
End
1117

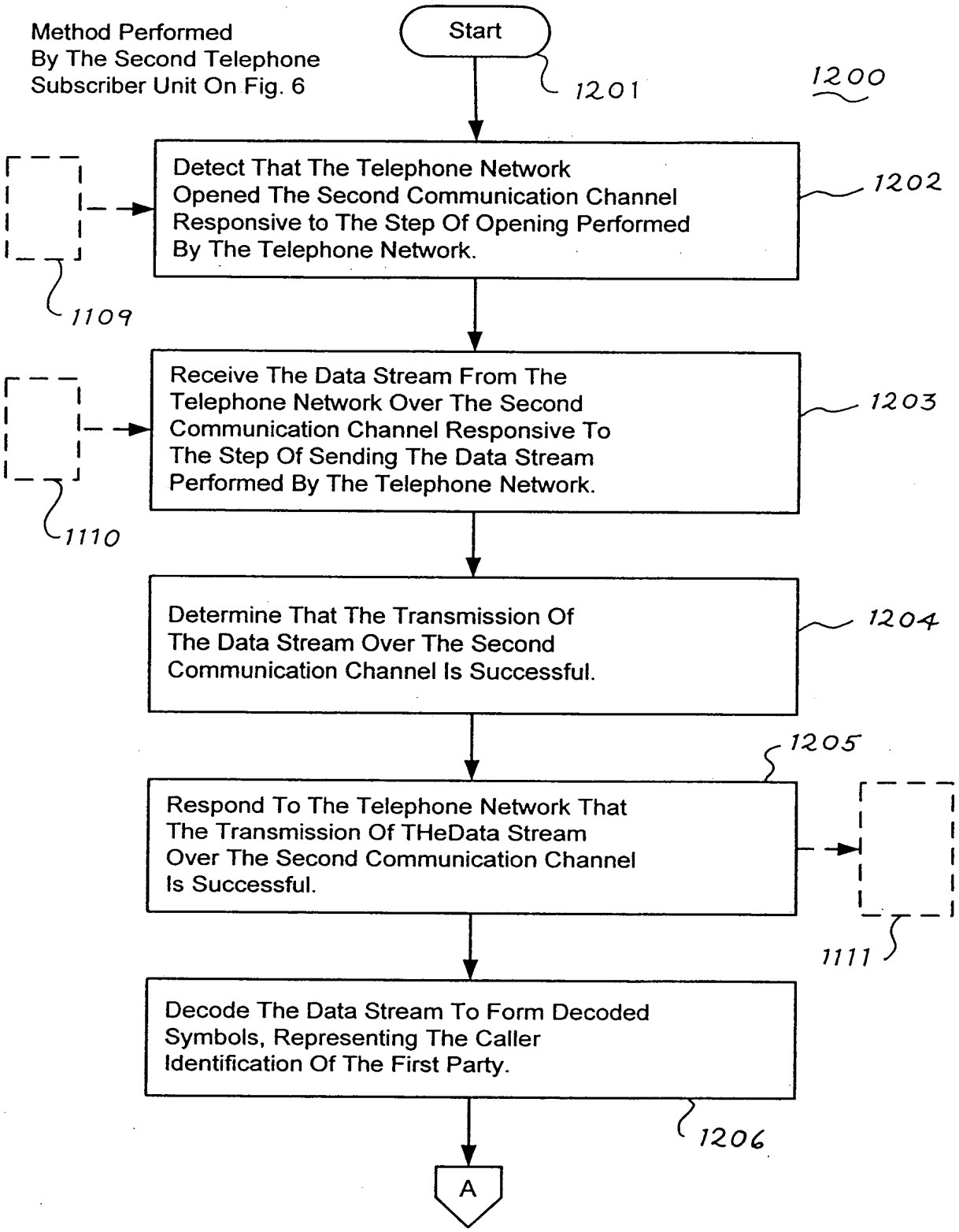

Method Performed By The Second Telephone Subscriber Unit On Fig. 6
Start
1201
1200
Detect That The Telephone Network Opened The Second Communication Channel Responsive to The Step Of Opening Performed By The Telephone Network.
1202
1109
Receive The Data Stream From The Telephone Network Over The Second Communication Channel Responsive To The Step Of Sending The Data Stream Performed By The Telephone Network.
1203
1110
Determine That The Transmission Of The Data Stream Over The Second Communication Channel Is Successful.
1204
1205
Respond To The Telephone Network That The Transmission Of THeData Stream Over The Second Communication Channel Is Successful.
1111
Decode The Data Stream To Form Decoded Symbols, Representing The Caller Identification Of The First Party.
1206
A

Fig. 12

Fig. 12 (cont'd)

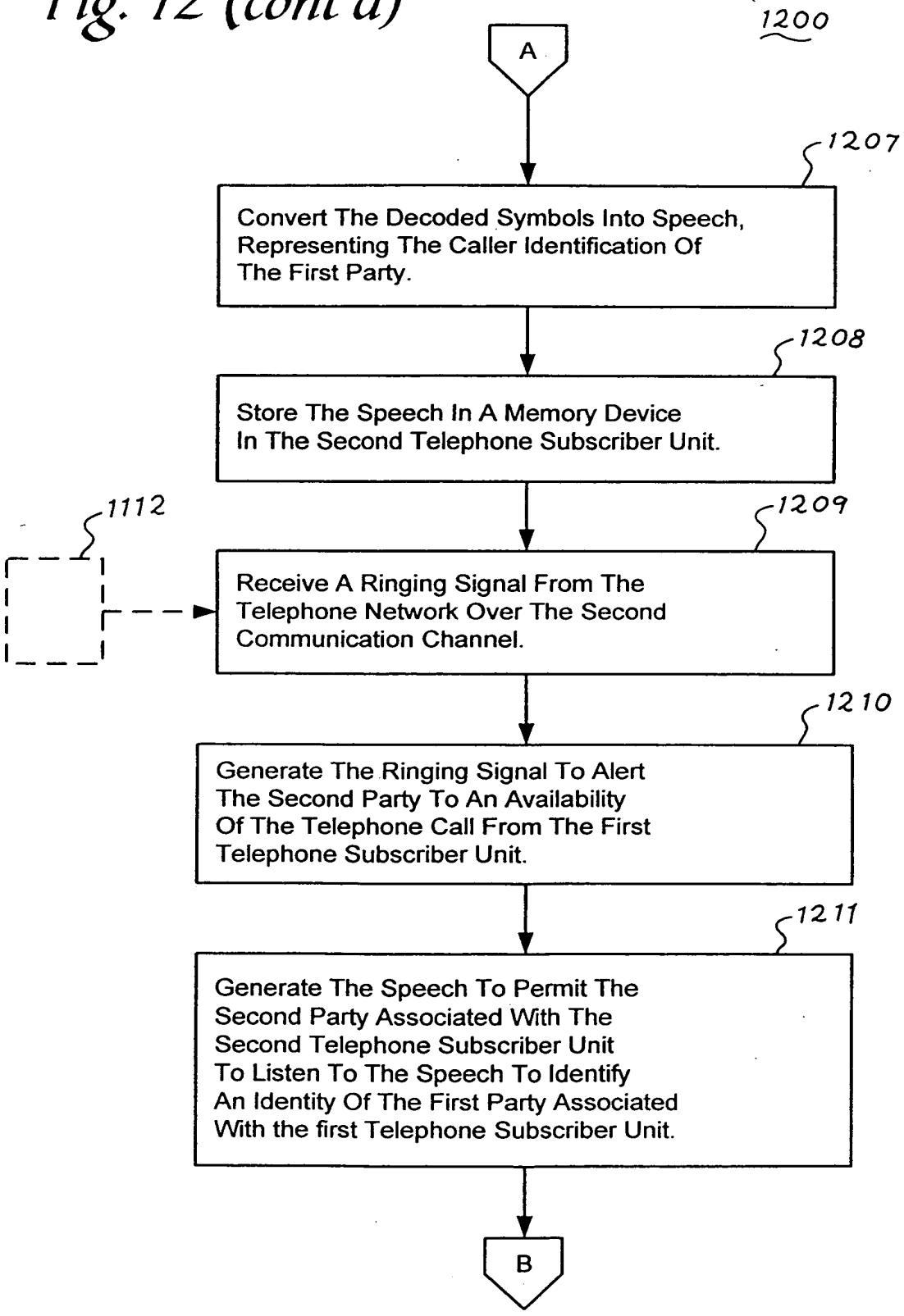
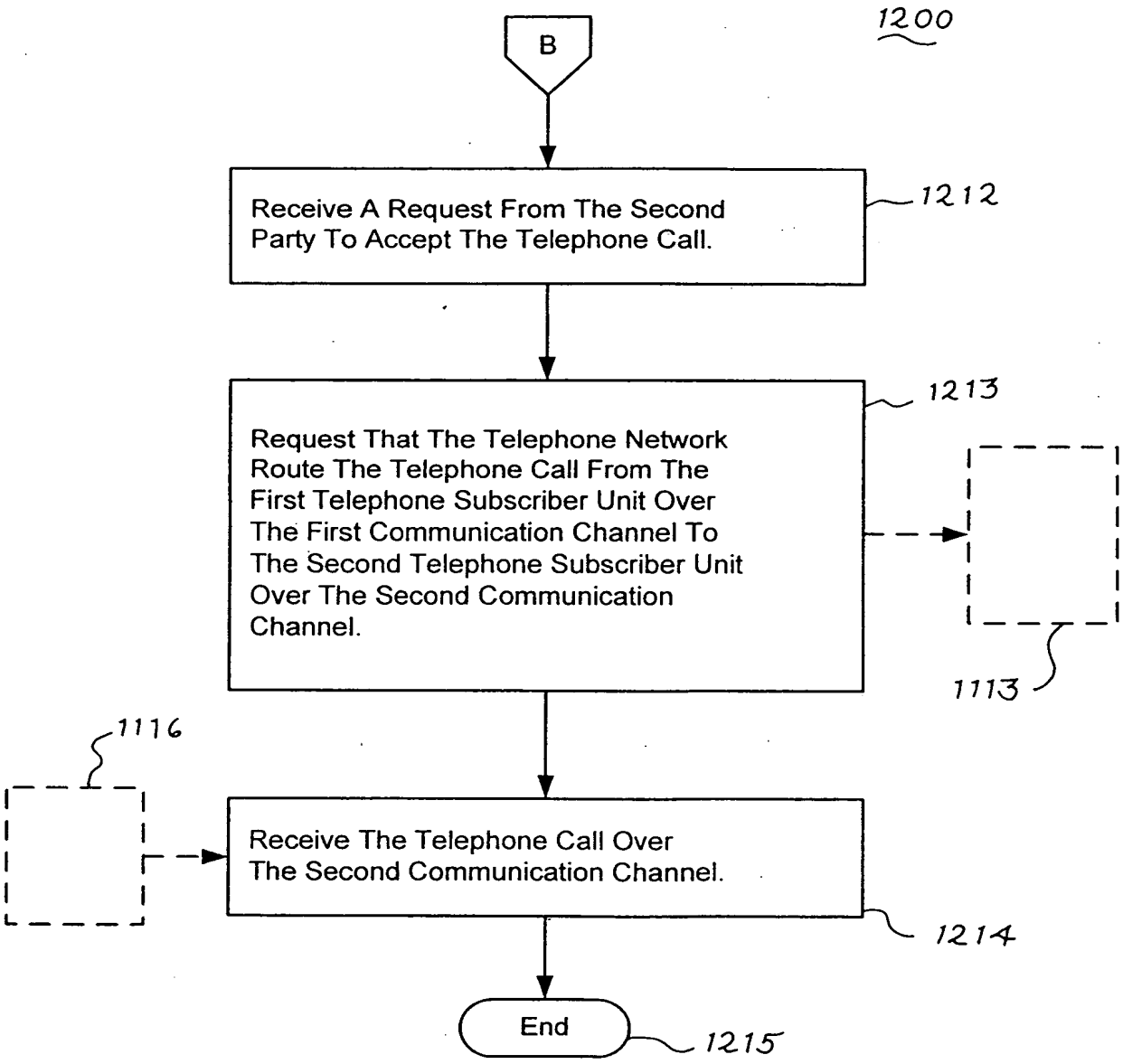

1200
A
1207
Convert The Decoded Symbols Into Speech, Representing The Caller Identification Of The First Party.
1208
Store The Speech In A Memory Device In The Second Telephone Subscriber Unit.
1112
1209
Receive A Ringing Signal From The Telephone Network Over The Second Communication Channel.
1210
Generate The Ringing Signal To Alert The Second Party To An Availability Of The Telephone Call From The First Telephone Subscriber Unit.
1211
Generate The Speech To Permit The Second Party Associated With The Second Telephone Subscriber Unit To Listen To The Speech To Identify An Identity Of The First Party Associated With the first Telephone Subscriber Unit.
B

Fig. 12 (cont'd)


1200
B
Receive A Request From The Second Party To Accept The Telephone Call.
1212
Request That The Telephone Network Route The Telephone Call From The First Telephone Subscriber Unit Over The First Communication Channel To The Second Telephone Subscriber Unit Over The Second Communication Channel.
1213
1113
1116
Receive The Telephone Call Over The Second Communication Channel.
1214
End
1215